Seminar 7

Debate

Team 3

Jonathan Ashmore

Introduction

It is our belief that the future of the Internet is based on the MobilityFirst architecture.

Jonny

As the name suggests, the MobilityFirst project aimed to solve the issue with mobility and the digital world. To put this into context, mobile devices outnumber wired devices, yet the infrastructure and architecture has not changed since wired devices gained popularity (Ding et. al., 2016). MobiltyFirst has many advantages over its archaic predecessor:

- Its scalable

- More secure

- More trustworthy

This is done by three processes. The Decentralised Name Certification Service (NCS) helps to join human-readable names to the Globally Unique Identifier (GUID), which are cryptographically verified. The Global Name Resolution Service (GNRS) maps the (GUID) to the Network Address (NA) which enables better connective mobility. Finally, the Storage and Computing Layer allows for fast introduction of services that do not affect current bandwidth.

- **Ali**

➢ Mobilityfirst started in 2010 thus making it a mature research technology in terms of how long it has been referenced and the main driver is that the number of mobile devices far exceeds the number of wired computers. One of the main benefits is to overcome the need for technology access as well as downloads to be more agile and uninterrupted catering to the needs of the user.

- **Andrijana**

- As to the articles, MobilityFirst started in 2010 thus making it a mature research technology in terms of how long it has been referenced and the main driver is that the number of mobile devices far exceeds the number of wired computers. One of the main benefits is to overcome the need for technology access as well as downloads to be more agile and uninterrupted catering to the needs of the user. The security layer added comes from the use of (GUID) Global unique identifier which is hashed for both the devices and content that become bound together for the entities in terms of who is requesting the information combined with what is requested. This feature adds a layer of privacy and security (Ding et. al., 2016).

- **Anoushka**

  Concerned with the issues in the current network architecture with respect to exponentially increasing number of mobile devices, such as disconnection in the internet with change in network, fragility of the wireless networks and dependence of additional infrastructure to support mobility, the MobilityFirst architecture intends to solve the issues with Mobility. In this architecture, a Globally Unique Identifier (GUID), a cryptographically verifiable identifier, which can improve trustworthiness and allow seamless mobility will be assigned a human readable name. A Global Name Resolution Service (GNRS) will be responsible for supporting seamless mobility by binding a readable name to the network address. It will be supported by caching to provide faster services to the users. The MobilityFirst aims to provide a good mobility and scalable routing services, which enhances its performance in various application scenarios.

  With respect to usability, this architecture scores good points, but with respect to security, it is vulnerable to certain types of attacks that can create hindrances to the genuine users. However, with the use of NetFence, the impact can be minimized.

- **Tebogo**

➢ MobilityFirst architecture is the future: communication devices are self-certifying in that they are represented by identity and location in a secure one-way public-key hashes and therefore, improving the security of devices in the internet, as every device can be uniquely identified and can be traced easily.

References

Rawat, D. & Reddy, S. (2017) Software Defined Networking Architecture, Security and Energy Efficiency: A Survey. IEEE Communications Surveys & Tutorials 19(1):325-346.

Ding, W., Yan, Z. & Deng, R. (2016) A Survey on Future Internet Security Architectures. IEEE Access.

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